

-13-

plurality of bulletin board servers 2 exchange messages among each other and all of them display the same message. In this way, the user can achieve his/her goal by accessing any of the bulletin board servers 2 within the same zone. The retrieved URL is transmitted to the requesting mobile information terminal 6a (S14). Based on the received URL, mobile information terminal 6a accesses bulletin board server 2 (S15).

In steps S12 to S14, mobile information terminal 6a directly accessed bulletin board server 2 based on the URL from central server 1. However, mobile information terminal 6a may indirectly access bulletin board server 2 via central server 1. This process is shown in steps S16 to S18. A request to access a bulletin board server within the zone is transmitted from mobile information terminal 6a to central server 1 (S16). Central server 1 retrieves the most preferred bulletin board server 2 (S17), accesses such server and transmits or receives a message (S18). When receiving a message, the received message is sent from central server 1 to mobile information terminal 6a. In this process, central server 1 functions quasi as a proxy server.

Fig. 7 shows the flow of the security processing by the server. When there is an access request for an unfolded message (icon) (S31), it is checked whether the requesting user is an authorized user (S32), and if yes, the user is permitted access (S33), and if no, the user is denied access (S43). The same process is conducted upon a request to move a message (change the receiver's address), edit a message and delete a message (S34 to S42). For example, if the system is a public bulletin board that can be accessed by anyone, anyone is permitted to access and move a message. However, editing and deleting is permitted only to the message sender or the administrator. In the case of a private bulletin board, access, movement, editing and deleting is permitted only to the message sender and receiver and the administrator. It is also possible to allow the message receiver to access but not to move, edit or delete the message.

-14-

Now, the method of operating this system will be described below. When sending a message, the message creation icon is clicked to create a message. Then the message creation icon is dragged and dropped to an arbitrary location on the bulletin board. Then the message is unfolded and can be read. The present system differs from the conventional broadcasting of messages in that no destination is designated and a message can be sent to all users who are participating. Furthermore, as an icon is used for operation, the system is intuitive and easy to understand, and very easy to use.

Fig. 8 is a functional block view of a portion of bulletin board server 23 that relates to bulletin board screen generating portion 23. A private area screen creation portion 33 creates the screen of private area 102. Private area screen creation portion 33 has icon reading, editing, moving and copying functions. These functions are executed according to permission from the security management portion 32. On the other hand, a public area screen creation portion 34 generates the screen of public area 101. In this area, the user can freely operate any of the icons. Operation information relating to an icon is input in area determination portion 31, where it is determined in which area the icon has been operated. Based on the determination result, security management portion 32 decides whether to permit the operation of such icon or not. The output is sent to private area screen creation portion 33. When security management is necessary in the public area, the above output is also sent to public area screen creation portion 34. The outputs of screen creation portions 33, 34 are synthesized at synthesizing portion 35 and displayed on display portion 36.

In the present system, when sending a message to a destination, the user drags his/her icon to either private area 102 or public area 101. Regarding an icon in private area 102, only the legitimate receiver can read the message. No other user

-15-

can read, move or delete this message. On the other hand, public area 102 is targeted at all users, and a message placed within this area can be read, moved or deleted by anyone. It is possible to enable only the administrator to move and delete a message as with the bulletin board in order to reinforce the security function. In the case of an urgent message, it is possible to drag an urgency icon onto the bulletin board. In this case, it is possible to display not the icon but the message itself.

Fig. 9 is a flow chart relating to security. When there is a request to access a posted message (icon), area determination is conducted (S41). If the determined area is the public area, access is permitted (S45). If not, it is checked whether the user is authorized (S43), and if yes, access is permitted (S45), and if not, access is denied.

According to the present system, a message is converted to an icon, and a message can be sent by dragging and dropping an icon, so an interface which is very easily understood can be provided. Also, security control is easy and clearer for the user because it is based on the screen area. Users who are not the receiver cannot read the message, but can know the existence of an icon, so a non-receiver user can know which users are exchanging messages.

The electronic bulletin board according to the present invention is set up, for example, by setting up a large display at a place where people gather. The user can leave an electronic message upon this display. The device is an alternative for the conventional blackboard used as a bulletin board used by the public. The device is set up for example in a railroad station, restaurant, a frequently used meeting place, etc.

The user can write a message on the electronic bulletin board by using input means such as a mobile information terminal (e.g., a cellular phone) and a keyboard provided on the electronic